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A487 New Dyfi Bridge

Environmental Statement -
Volume 3: Appendix 15.6

Water Framework Directive Summary Table

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Appendix 15.6 Water Framework Directive Summary Table

Project Name and Grid Reference	Project Design	Potential WFD Enhancements	Water Body ID	Name of Water Body and River Basin District	Current Overall Status & Objectives	Biological Elements	Chemical Quality Elements	Hydro-morphological Elements	WFD Mitigation Measures for Water Body	Assessment (Conclusions and mitigation measures shown in bold text)
A487 Dyfi Bridge (NGR SH 7485301989)	Scheme elements with potential for WFD impacts: Piling with the potential to open new pollution pathways; Routine discharge of highway drainage to the River Dyfi and smaller ditches; Discharges following serious pollution incidents.	N/A	GB41002 G203200	Meirionnydd: Western Wales River Basin District	Current: Poor Objectives: Overall: Poor by 2021 Chemical: Poor by 2021 (technically infeasible)	Current Quantitative Status: Good	Current Chemical Status: Poor	N/A	Mine water and contaminated land remediation	Effect on WFD Objective to Achieve Good Status The assessment carried out to inform the Environmental Statement found the significance of temporary and operational effects of the Scheme on groundwater to be slight adverse to neutral. The risk of pollution is considered low. A Construction Environmental Management Plan would be implemented to manage pollution risks. The CEMP would incorporate best practice as set out in the Environment Agency's Pollution Prevention Guidance (PPGs). A Surface Water Management Plan would also be developed as part of the CEMP. No further mitigation is proposed. It is concluded that with the above mitigation in place, the Scheme would not adversely affect the current status of the water body or prevent it from achieving Good status in the future.
A487 Dyfi Bridge (NGR SH 7485301989)	Scheme elements with potential for WFD impacts: Excavation and plant trafficking that mobilises silt;	N/A	GB51100 6407000	Dyfi & Leri: Western Wales River Basin District Transitional water body Not a A/HMW/B	Current: Moderate Objectives: Ecological: Good by 2021 Chemical: Good by 2021	Current Ecological Status: Good	Current Chemical Status: Failing to achieve Good Key reasons for failure: Metal mine pollution; Ubiquitous		Regulation and improvement of point sources discharges which have an impact on Shellfish Water Protected Areas	Effect on WFD Objective to Achieve GES The water body falls within a number of protected sites (Dyfi SSSI, Pen Llyn a'r Samau / Llyn Peninsula and the Samrau SAC, Dyfi Estuary / Aber Dyfi SPA and Cors Forchno and Dyfi Ramsar site. The closest of these sites is located approximately 5km from the proposed river crossing. The significance of operational impacts (i.e. routine discharges and risk of serious pollution incidents)

	Routine discharge of highway drainage to the River Dyfi and smaller ditches; Discharges following serious pollution incidents.				2021 (default)		and/or persistent chemicals			<p>was found to be neutral. No mitigation measures are proposed for the operational phase.</p> <p>The risk of temporary impacts on water quality associated with sediment/silt and spills would be managed through implementation of the CEMP as described above.</p> <p>Furthermore, the following measures would be adopted:</p> <ul style="list-style-type: none"> • Minimise/avoid in-river working; • Minimise and protect excavations; • Control plant trafficking routes to keep plant away from river banks; • Re-instate coarse surface layer on bar following construction of the pile cap at the southern abutment; • Minimise vegetation removal and avoid disturbing the natural bank below the excavation limits for constructing the northern abutment; • Use biodegradable erosion control measures to prevent soil erosion from newly cut or filled surfaces prior to the establishment of good vegetative cover; and • Phase work to ensure erosion control measures are in place prior to inundation of low-lying areas. <p>It is concluded that construction and operation of the Scheme would not adversely affect the current status of the various WFD elements or prevent this or any other water body from reaching GES provided the above mitigation measures are implemented.</p> <p>No further assessment is required.</p>
A487 Dyfi Bridge (NGR SH 7485301989)	Scheme elements with potential for WFD impacts: Piling, excavation and pile cap construction for bridge abutments, especially excavation of	Use of bioengineering to stabilise riverbanks beyond the limits required to mitigate adverse geomorphologic impacts of the scheme (i.e. upstream of the Millennium bridge and	GB11006 4048390	Dyfi – tidal limit to Afon Twymyn: Western Wales River Basin District Not a A/HMMWB	Current: Moderate Objectives: Ecological: Good by 2021 Chemical: Failing to achieve Good by 2021	Current Ecological Status: Good Ecological Elements: Invertebrates: High Fish: Not provided	Current Chemical Status: Failing to achieve Good Key reasons for failure: Metal mine pollution; Ubiquitous and/or persistent chemicals	Hydrological regime: High Morphology: Supports Good	Mine water and contaminated land remediation	<p>Effect on WFD Objective to Achieve GES</p> <p><i>Temporary impacts during construction phase</i></p> <p>In addition to the above measures, the following mitigation would be adopted to protect the river environment in the short term:</p> <ul style="list-style-type: none"> • Avoid working in the channel before and during the spawning season; • Time vegetation control measures to be sensitive to the habitat needs of the species present; • Retain vegetation where possible; • Fully re-instate the gravel bar with its coarse surface layer at the earliest

the gravel bar at the southern abutment; Earthworks activity on the floodplain; Excavation for the flood relief channel;	downstream near Pont-ar-Dyfi. Would enhance riparian habitat, protect cycle path and contribute to resilience of the scheme.		(technically infeasible)	Physico-chemical: Ammonia: High BOD: High Dissolved Oxygen: High pH: High Phosphate: Good Temperature: High				<ul style="list-style-type: none"> • opportunity following construction of the southern pile cap; • Exclude plant from the area of the gravel bar outside the limits of the excavation; and • Engage a qualified geomorphologist to supervise work taking place in the channel or on the river banks. <p>Permanent effects during operational phase</p> <p>The significance of operational impacts from routine discharges and risk of serious pollution incidents was found to be neutral.</p> <p>Significant remaining risks are longer term issues with bank erosion, bank failure or scouring that could lead to the instalment of hard revetment.</p> <p>The following measures would be implemented to mitigate these risks:</p> <ul style="list-style-type: none"> • Minimise vegetation removal on the northern bank, leaving stumps in place where tree removal is required; • Carry out compensatory planting of appropriate woody species; • Bury the pile cap for the southern abutment below normal flow level (6.57m(AOD)) to enable continued functioning of the gravel bar; • Use bioengineering methods to protect the floodplain from scouring around the piers. Similar measures would be used around the southern abutment. Pre-established coir matting should be considered as an alternative to seeding in order to provide immediate protection and aid in rapid vegetation establishment; • Avoid the use of hard revetment; • Monitor planted areas to ensure establishment and continued erosion control performance; • Design the new ditch outfall downstream of the Pont-ar-Dyfi to minimise the risk of bank erosion, utilising bioengineering methods of erosion protection where necessary. <p>Providing the above mitigation measures are in place, it is concluded that neither construction nor operation of the Scheme would adversely affect the current status of the various WFD elements or</p>
Plant trafficking; New abutments and piers located on the riverbanks and floodplain; New drainage ditch outfall into the River Dyfi; Routine discharge of highway drainage to the River Dyfi and smaller ditches; Discharges following serious pollution incidents.								

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